
Case Report

A 70 –Year- Old Man with Shortness of Breath – What Lies Beneath?

Laili Poorafkary MD¹, Fariborz Akbarzadeh MD¹, Samad Ghaffari MD^{1*}, Bidjan Zamani MD¹

1 .Cardiovascular Research Center, Tabriz University of Medical Science. Tabriz, Iran.

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Abstract

We describe a 70-year-old man who presented to our emergency department with worsening shortness of breath. His chest roentgenogram showed pulmonary congestion and his condition improved with heart failure treatment yet a repeat chest roentgenogram revealed an abnormality which had remained unnoticed in his first chest x-ray due to the underlying congestion in lung fields. Descending aorta was dilated and very prominent. Further work-up showed a type B dissection which seemed to be chronic. Considering the chronicity of the condition, the fact that it was actually asymptomatic and the patient's fragile condition we decided not to proceed with surgery.

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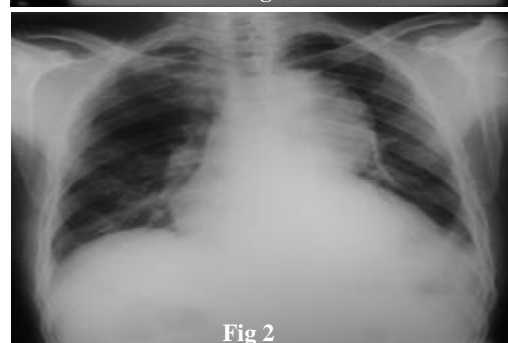
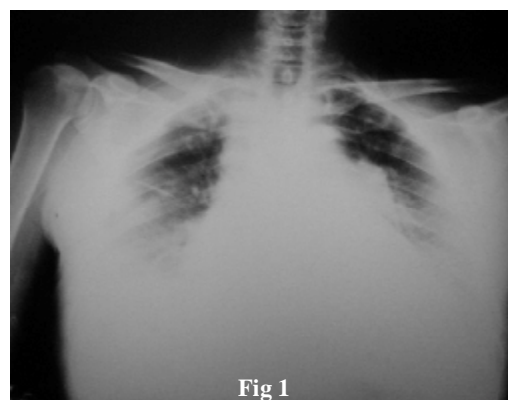
***Corresponding Author:** Samad Ghaffari MD, Cardiovascular Research Center, Madani Heart Center, Tabriz University of Medical Sciences, Tabriz, Iran. Tel: +98 411 -3357767 Fax: +98 411 -3344021 E-mail: Ghaffaris@gmail.com



Introduction

A 70-year-old man presented to our emergency department with worsening shortness of breath of one week duration. On presentation he was in functional class IV. He had had cough with frothy and pink sputum for the last 24 hours. He hadn't experienced any chest pain. He reported exertional dyspnea of functional class 2 but no chest pain, for a few years for which he hadn't sought medical attention. His vital signs on presentation included a heart rate of 110, blood pressure of 170/100 and respiratory rate of 26. He was afebrile. On physical examination, the patient was noted to have respiratory distress, his pulse was irregularly irregular, and S3 and a 3/6 holosystolic murmur best heard at apex was noted fine crackles were heard up to 2/3 lungs. Pitting peripheral edema up to knees was also present. Past medical history was remarkable for uncontrolled hypertension. He was not a smoker. His chest x ray on presentation is shown in (Figure 1). Cardiomegaly and congestion of lungs with accumulation of fluid in fissure was present. On electrocardiography, atrial fibrillation with rapid ventricular response and left ventricular hypertrophy was noted. Lab data included creatinine= 2.2 mg/dl, hemoglobin= 11.5 gr/dl, white blood cell= 11500 per μ L, and normal cardiac enzymes. The patient was placed in a sitting position, oxygen was administered and intravenous digoxin, nitrate and diuretic was administered which lead to improvement in his condition. Based on history and physical examination a diagnosis of acute decompensation of chronic heart failure was made and the patient was admitted. After 3 days of heart failure treatment the patient's condition improved significantly. Meanwhile a sonography of the kidneys was ordered for evaluation of the increased creatinine level which showed small kidneys with relative increased parenchymal echogenicity in favor of chronic kidney disease. A control chest x-ray (Figure 2) was ordered which clarified a detail which had remained unnoticed in the first chest x-ray because of the underlying congestion. The descending aorta was very dilated and aneurismal. On echocardiography, left ventricular ejection fraction of 30% with moderate mitral regurgitation and dilated aorta was noted and

transesophageal echocardiography confirmed type B aortic dissection. Chest CT scan with low-dose contrast agent, revealed type B thoracic aortic dissection which extended to the abdominal aorta but did not involve renal arteries (Figure 3). Considering the patient's history, chronic type B aortic dissection with congestive heart failure and chronic renal failure was present. Considering the chronicity of dissection and the fact that dissection was actually asymptomatic and an incidental finding, control of hypertension with medications and also the patient's age and comorbidities and his unwillingness to undergo operation, we decided to manage the condition medically.





Discussion

Repeat chest x-ray after the pulmonary edema has cleared can be of value in revealing underlying pathologies. In our case it identified a prominent shadow of descending aorta which led to the diagnosis of underlying type B aortic dissection. Dissection is the most common catastrophic event that affects the thoracic and abdominal aorta.¹ Aortic dissection is classified based on the onset of symptoms to two groups of acute and chronic. It is called acute, if the symptoms or dissection occur within last 14 days, and chronic if it has occurred more than 14 days earlier. It is further categorized depending on the location. In the more commonly used classification system, i.e. Stanford classification, type A includes dissections that involve the ascending aorta regardless of the site of origin. Type B refers to dissections that involve solely the descending aorta. Type B dissections are called complicated if it is associated with rupture, malperfusion syndromes refractory pain, or rapid aortic expansion.² In uncomplicated type-B dissection, conservative management with tight blood pressure and heart rate control is considered safe and effective.³ Generally, surgical intervention is reserved for complications such as aneurysmal expansion, malperfusion (visceral or limb), and failure of medical management with intractable pain.⁴ Certain initial findings that are indications for emergent operation including rupture, organ ischaemia and shock have been shown to negatively affect the course of type B aortic dissection. It has been generally recommended that individuals with type B acute aortic dissection without complications, such as rupture, potential rupture or organ ischemia, should be treated with hypotensive drugs during the acute phase and that operation be attempted only if the aortic diameter increases during the chronic phase.¹ The 30-day survival rate for patients with type B aortic dissection treated medically is as high as 92%.⁵ Still the outcome of medical therapy in case of presence of distal dissection complications like abdominal visceral ischemia, uncontrolled pain, and rapid expansion of the dissected aorta may be poor. It should be noted that when patients with distal dissection are treated

medically, the physicians should pay particular attention for any evidence of branch arterial malperfusion, especially mesenteric ischemia.⁶

References

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